PROFITABILITY BEHAVIORAL PERSPECTIVE AND THE EXPECTED RETURN ON SHARES OF COMPANIES LISTED ON THE TEHRAN STOCK EXCHANGE: EXAMINATION AND ANALYSIS

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Abstract

Since increasing shareholders' capital has long been promoted as the main goal of business entities, they are expected to achieve this by obtaining a solid return. Return on investment is often devised as a driving force that motivates and incentivizes investors. The purpose of this study was to examine the role of dividends in the expected returns of companies listed on the Tehran Stock Exchange during the Persian fiscal years corresponding to 2014-2018. To this end, 96 companies listed on the Tehran Stock Exchange were selected using systematic elimination sampling. Multivariate regression analysis based on panel data was implemented in EViews environment to estimate the research model. To distinguish whether the data was best fitted to the panel (longitudinal) or pooled (mixed) model, the F-Limer test was used, and hence the results indicated the suitability of the panel model; Hausman test was pursuantly used to establish whether the model was that of fixed effects or random effects. The research model was randomly estimated. The findings from estimating the research model indicated that, at a significance level of 10%, dividends have an inverse and statistically significant effect on the expected return of shares. The subject of dividends and profit-sharing policies has always been one of the most debated topics in financial science.

Keywords: Expected return of shares, Dividends, Return on equity, firm Size, leverage
Subject classification codes: M41, M48, M40, M4

INTRODUCTION

Today, owing to the ever-increasing significance and efforts of capital markets in deploying and attracting small individual capital to production activities, identifying the attitude of the investors and variables affecting stock prices and returns therein has gained paramount importance (Nikolskaya, E. Y., et. al., 2021; Jaghoubi S., 2019). There is no denying that investing in the stock market is an important part of the country's economy and that the largest amount of capital is readily exchanged through various stock markets around the globe. That is, the economy of every country is strongly influenced by the performance of stock markets (Francis and Patricia, 2012). Both professional investors and the general public consider the stock market as an important investment avenue.

Issues such as intense market competition, economic fluctuations, daily crises in international relations, the rapid advancement of technology in most areas, and the ever-increasing influence of the human factor in the organizational structure, among others, have made the operational examination of organizations much more complicated than before (Michaely and Roberts, 2012).

The distribution of dividends remains a highly sophisticated issue for financial researchers, which can be discussed in two major perspectives. On the one hand, profit sharing is perceived to influence the prospective investments of companies. It can downsize internal resources and hence increase the need for external financial resources. On the other hand, many shareholders of the company demand receiving their dividends. Therefore,

managers must relentlessly seek to strike the perfect balance between their various interests and profitable investment opportunities to maximize the wealth of shareholders (Shokri, A., & Pakdel Moghanloo, A 2016). As such, profit-sharing decisions adopted by the managers are deemed to be of significant influence. Identifying the factors affecting dividends has been a major academic point of interest for researchers around the globe. Research indicates the importance of dividends in the fortunes of companies. On the other hand, there are still countless unexplored issues in this realm that simply necessitates further studies

The subject of dividends and profit-sharing policies has always been one of the most debated topics in financial science. It has garnered the interest of the contemporary economists of the last five decades, effectively catapulting it as the subject of comprehensive theoretical models and empirical studies. Many contradictory theoretical models, all of which lack strong empirical support, are defined as ongoing efforts to explain corporate profit-sharing behavior. Profit-sharing is important in several ways. In one sense, the distribution of dividends is a factor affecting the use of investment opportunities available to companies; that is, the higher the value of the dividend, the lower the internal resources of the company for pursuing investment projects and hence the greater the need for external financial resources. This factor can significantly affect the stock price of companies in the future (Haidarpour and Zare Rafi, 2014). On the other hand, many shareholders demand their dividends in timely intervals, leaving the managers with no choice but to find the optimal trade-off between the different interests of shareholders so as not to miss the prospective profitable investment opportunities and be able to pay the dividends required by some shareholders (Meshki Miyaghi and Sarfejoo, 2017).

Implementing appropriate profit-sharing policies in atomistic capital markets can maximize shareholder wealth, as a result of which investors would have different incentives to buy stocks. As such, managers must adopt an extensive range of policies to meet the expectations of the company's shareholders (Kim, 2011). Among these policies are dividend policy and policies related to capital structure and financing, through which management can achieve the main objectives of the company, that is, to maximize the company's profit and ultimately maximize shareholder wealth (Masters et al., 2015).

This study aims to determine whether the dividend distributed impacts the expected return of the share of companies listed on the Tehran Stock Exchange.

Theoretical foundations of research

Return

Financial return refers to the profit gained from a financial activity in a certain period; all financial resources gained from a specific business activity are represented as a percentage of the employed capital. Return on share is the rate of return on investment in the purchase of shares and that portion of the dividend distributed among shareholders. There are many techniques, including financial techniques, for evaluating corporate financial performance and measuring returns, which are suitable for various purposes. Therefore, considering the discussion's point of view and purpose is of paramount importance in the financial realm (Meier, 2021).

The first step in measuring the performance of a firm is to calculate the return obtained according to the predetermined goals for a business unit, and since increasing the wealth of shareholders (company owners) has been primarily cited as the main goal of business units, every firm must ground its activities on increasing the wealth of the shareholders by obtaining the appropriate return. The increase of the shareholders' wealth is synonymous with a "positive return" of shares in a given financial period. Theoretically, the optimal capital structure maximizes the company potential, which is achieved in two ways, namely, (1) through maximizing the return of shares of the company and (2) through minimizing the cost of capital in the optimal capital structure.

Factors affecting return

A glance at the theoretical foundations and research background reveals that factors

influencing financial return include leverage ratio, growth opportunities, profitability, company size, long-term return trend, momentum strategy, stock price, company value, and liquidity. Leverage ratios indicate how the company's capital is combined. This ratio shows the position of creditors vis-a-vis that of shareholders, in that to what extent each has invested in the business unit. The leverage ratio can be addressed using risk and return; the higher the leverage ratio, the higher the company's risk, and the higher the stock return as a risk-reward. There is a direct relationship between stock returns and leverage ratio (Comprix et al., 2017).

Accounting profit

Although the concept of accrued income as a fundamental measure is faced with stern criticism, this concept reflects the outcome of accounting activity from an information point of view. Based on the efficient-market hypothesis, observational research also indicates that accounting profits may prove to be highly informative. Accounting profit calculation as a single measure of performance with a plethora of parameters considered therein has always been approved by professional accountants and financial analysts (Shabahang, 2012). Accounting profit is based on the notion of accrual and is hence measured within accounting principles. Overall, it can be said that the purpose of measuring profit is to determine how much the condition of a business has improved as a result of operations performed during a certain period. Measuring accounting profit would be ideal when it is based on gauging periodic changes in a business unit's actual wealth (that is, current values). Nevertheless, measuring current values reliably is often challenging. Given the need for reliability of measurements in accounting, the profit must also be determined to be necessarily reliable.

Facts often form the basis of the decisions and future forecasts of business units. Most of the contents of accounting records lay prove to this, but is it difficult for accountants to decide what the facts are.

As such, to periodically report such activities, accountants are consistently on the look-out for objective and positive evidence to report

relevant information based on thereon. Nevertheless, what is the meaning of objective and positive evidence? An important factor in the objectivity of any information is the ability to prove it. That is, the agreement of competent persons on what has been observed or experienced (Taheri, 2015).

Profit as a means of forecasting

Statement 1 of Financial Accounting Concepts states that investors, creditors, and other beneficiaries tend to estimate the company's net future cash flows. However, most of them try to use the notion of profit to estimate the company's profitability, predict prospective profits, and evaluate it using the risks associated with investing in the company or giving out loans. Therefore, it is assumed that there is an established relationship between reported earnings and cash flows (which include cash payments to owners in the form of profits). Many researchers have sought to provide evidence on the assumptions made by the Financial Accounting Standards Board. In one research avenue, the question arises as to which specific indicators and figures investors and other beneficiaries want to employ to evaluate the company's future. This data is called a "summary index" because it indicates the relative success or failure of the company; that is, these summary figures offer similar information. Profit on share is one of these indices that has been of paramount significance in academic research. In another research avenue, scholars use the value of the company to predict the probability of its bankruptcy (Lukáš et al., 2021).

Dividend policy and its impact on stock returns

Dividend Per Share (DPS) is the total amount of dividends attributed to each individual share outstanding of a company for a certain perio. Dividend per share is calculated by dividing all dividends approved by the general meeting for payment between the shareholders by the number of outstanding shares of the company. The value declared by dividends is inferred through the disclosure of managers' private information about future dividends. A company that distributes its future cash flow can assure shareholders that its money will not be wasted (Hampton, 2019).

Regarding profit-sharing policies, the following are of financial significance:

1. The percentage of profit that should be distributed.
2. instruments and resources used for such purpose (cash or non-cash)
3. Common profit-sharing systems (Hampton, 2019).

Research background

In a study entitled "Examining the relationship between the ratio of dividends to adjusted closing price and the power to predict stock returns," Tahaghoghi Haj-Ghorbani (2019) studied the effect of dividends on stock returns and presented a new variable called the ratio of dividends to adjusted closing price. The study results indicate that the ratio of dividends to adjusted closing price can better predict the expected return compared to the ratio of dividends to stock prices.

Lozumi and Madanloo Joybari (2017) studied the relationship between the value of dividends and stock returns of companies listed on the Tehran Stock Exchange 2011 to 2015. The results show that there is a significant and negative relationship between dividends and stock returns. The results also indicated that there is also a positive and significant relationship between the price-earnings ratio and stock returns. Finally, there is a positive and significant relationship between dividend and price-earnings ratio and company size and a negative and significant relationship between dividend and price-earnings ratio and financial leverage.

Yahya Zadehfar and Abbasi (2016) examined the relationship between dividends and the realized returns of shares of banks listed on the Iranian Stock Exchange. The findings showed that there is a significant relationship between dividends and realized returns.

Shokri and Pakdel Moghanloo (2016) studied the effect of dividends on corporate investment by considering the criterion of cash flow shortfall in companies listed on the Tehran Stock Exchange, the findings of which indicated that dividends can be considered as one of the highly influential factors in the volume of investment of companies. The study results confirmed the two hypotheses of the study and showed that dividend (with 95% probability) and cash flow shortfall (with 99% probability) have a positive and significant effect on corporate investment.

Baker and Powell (2016) investigated the ratio of dividends to adjusted stock prices. They concluded that the ratio of dividends to adjusted stock prices could be considered an improvement to the classical ratio. It considers the maximum weakness in dp and its hypothetical inability to detect instability of the business cycle at the expected returns. Unlike dp, the modified ratio of profit to price has a positive relationship with risk-free returns, and in the case of low dividends with low returns, the modified ratio can detect the returns.

Finally, Chen et al. (2015) examined the relationship between future earnings forecasts and risk-adjusted returns using the Carhart four-factor model. Their research results show that risk-adjusted returns are higher in portfolios with a forward P/E ratio than those with a trailing P/E ratio. In addition, risk-adjusted returns for companies with high P / E ratios are positively correlated with changes between trailing earnings and forward earnings. Overall, forward earnings forecasts accurately significantly increase risk-adjusted returns.

Research method

The present study is applied research in terms of purpose, which employs the deductive-inductive reasoning framework. Statistical data were extracted from corporate financial statements of organizational documents.

The data required for this research was collected through computer databases, by referring to the Exchange and Securities Organization library, using the Rahavard Novin software and referring to the Exchange and Securities Organization (www.codal.ir; Codal Publishers Information System). Also, financial statements of companies, including balance sheets, cash flow statements, and notes accompanying financial statements at the end of each Persian fiscal year (March 20) was used as research tools.

The statistical population studied in this study included the companies listed on the Tehran Stock Exchange. The inclusion criteria and the resulting sampling are described as follows:

❖ Total companies that were members of the stock exchange until the end of the Persian fiscal year of 2018: 498

❖ Banks and investments, insurance, and financial intermediation companies: 104

❖ Companies whose fiscal year-end at a date other than March 20: 98

❖ Companies that have a trading hiatus of more than four months: 83

❖ Companies for which some financial information was not available: 117

After applying the above inclusion and exclusion criteria, a total of 96 companies were selected for the research, amassing to the total of 480 firm-year observations.

Research model

$$RM_{it} = \beta_0 + \beta_1 \text{DIV}^*{}_{it} + \beta_2 ROE_{it} + \beta_3 size_{it} + \beta_4 Lev_{it} + \beta_5 CFO_{it} + \beta_6 ROA_{it} + \varepsilon_{it}$$

Research variables

The dependent variable

RM: Expected Returns

RM represents the estimated return the investor would expect to receive from an asset in a prospective period. In its research leading to the capital asset pricing model, Sharp proved that the expected return on single security is equal to the return on a risk-free asset plus the relative risk of the securities (β) multiplied by the difference between the return on the market portfolio and the return on the risk-free asset, hence the following formulation:

$$RM_{ri} = r_f + \beta_i(r_m - r_f)$$

where RM_{ri} denotes the expected return; r_f represents the risk-free return on an asset; β_i is the Relative risk of securities; r_m is the return of the market portfolio, which is obtained from the sum of price changes and cash dividends, taking into account the amount paid as capital, that is,

$$rm = \frac{\sum c_{it}.D_{it} - \sum x_i.p_i}{c_{it}p_{it} - 1} + \frac{\text{TEP}_t - \text{TEP}_{t-1}}{\text{TEP}_{t-1}}$$

where TEP_t represents the stock index at the end of the day, TEP_{t-1} represents the stock index at the beginning of the day; $x_i.p_i$ is the equity capital from stockholders' funds and receivables; c_i is the number shares in each period; D_{it} denotes the dividend per share; p_{it} is the price of the share in each period.

Independent variable

Dividends

There is an alternative approach to dividends employed in this study, that is, it is represented by dividend per share of the company divided by the sum of assets at the beginning of the period per share, hence:

$$\text{DIV}^* = \frac{\text{DIV}}{\text{TA}_{i,t=1}}$$

where DIV^* is the dividend per share of the company divided by the sum of assets at the beginning of the period per share; DIV is the dividend per share in each period; and $\text{TA}_{i,t=1}$ denotes the total assets at the beginning of the period per share.

Control variables

A) Company Size (SIZE): is equal to the natural logarithm of the company's assets

B) Financial Leverage (LEV):

LEV is defined based on the following formula

$$LEV = \frac{Total\ Debts}{Total\ Assets}$$

C) Return on Assets (ROA):

ROA can be calculated using the following equation:

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}}$$

D) Return on equity (ROE):

ROE can be calculated using the following equation:

$$\text{ROE} = \frac{\text{Net Income}}{\text{Shareholder's Equity}}$$

E) Cash flow from operating activities (CFO):

Also known as operating cash flow, it can be derived from the cash flow statements of the companies.

Information analysis method

Descriptive and inferential statistics such as regression model, F-Limer test, and Hausman test were used in this study to analyze and interpret the resulting data. The above tests were performed in the EViews environment.

RESULTS

Descriptive Statistics

Pre-tests related to estimating the panel regression model

Stationary test of panel data

The Levin–Lin–Chu (LLC) test was employed in this study to examine the unit roots for variables. The results are presented in Table 2. As can be seen from the table, the probability value of the LLC statistic for all the variables is less than the significance level of 1%, 5%, and 10%, and thus it can be concluded that the assumption of variables being non-stationary is rejected, that is, the variables are stationary.

Chow (F-Limer) test

The results of the Chow test on the research model are shown in Table 3.

As can be seen, the value of Prob is less than 0.05, and thus the assumption of equalness of y-intercepts is rejected. Therefore, the results indicated that the panel data model is better suited for this study.

Next, the suitability of the fixed effects model should be tested against that of the random-effects model. The Hausman test is used for this purpose.

Hausman test

The null hypothesis of the Hausman test is as follows.

H_0: There is no correlation between the error terms and the explanatory variables (random effects method)

H_1: There is a correlation between the error terms and the explanatory variables (fixed effects method)

Given that the value of the significance level of the test is greater than 0.05, the null hypothesis that the random effects method is more efficient is not rejected. Therefore, the research model is estimated by the stochastic effects method (Table 4).

Hypothesis test

Based on the data presented in Table 3, the estimated model would be as follows:

RM_i = 27.0104877965 - 1.13140124391e-13*DIV_i + 0.000115525898575*ROE_i + 0.569067247609*$SIZE_i$ + 0.0113153053231*LEV_i + 1.39909285307e-09*CFO_i + 9.85936067638e-09*ROA_i

The following findings can be derived from the analysis of the research model:

❖ According to the significance levels and the sign of the estimated coefficients of the variables, the variables corresponding to return on equity, company size, operating cash flow, and return on assets have positive coefficients and a probability value of less than 0.05, hence it can be concluded that with a confidence interval of 95%, there is a direct and significant relationship between these variables and the dependent variable.

❖ Moreover, the dividend variable has a negative coefficient and a probability value greater than 0.05, which is less than 0.1. Hence, with a confidence interval of 90%, it can be concluded that there is a significant inverse relationship between this variable and the dependent variable.

Therefore:

• By increasing the variable of return on equity by 1, the expected shares return increases by 0.000116.

• By increasing the variable of company size by 1, the expected return of shares increases by 0.569067.

• By increasing the variable of cash flow from operating activities by 1, the expected return of shares increases by 0.00000000140.

• By increasing the variable of return on assets by 1, the expected return of shares increases by 0.00000000986.

➢ The value of the R-squared statistic (determination coefficient of the model) in the above table indicates that 69.6% of the changes in the dependent variable (expected return) can be explained by the estimated model.

➢ The significance level of the model (P = 0.0046 <0.05) indicates that the estimated model is statistically significant.

➢ The Durbin-Watson statistic for the model is equal to 1.81 and close to 2, the assumption of auto-correlation between the components of the model is rejected.

According to the estimated model, the correctness of the research hypothesis is examined:

Research Hypothesis: Dividends have a significant effect on expected returns of shared.

According to the results from Table 5, the value of the F-test is equal to 0.0046, which is less than 0.05. Therefore, the whole model is significant at the confidence interval of 0.95. furthermore, the value of the t-test indicates that the coefficient of variable dividend is significant at the confidence interval of 0.90. since the probability value is more than 0.05 and less than 0.1, the dividend has a significant relationship with the expected stock return. The coefficient of determination was determined to be 0.696; that is, 69.6% of the changes of the dependent variable are expressed by the independent variable. The value of the Durbin-Watson statistic for the research model indicates a lack of auto-correlation.

The values of model coefficients and the results from estimating the research model indicate that, at a significance level of 0.1, the dividend has an inverse and significant relationship with the expected return of shares, confirming the research hypothesis.

Auto-correlation in error terms (residuals)

There are various tests to check for the auto-correlation of the model residuals, the most common is the Durbin–Watson statistic. A value of around 2.0 indicates there is no autocorrelation detected in the sample.

The critical value of the Cointegrating Regression Durbin-Watson statistic (CRDW) is presented in Table 6.

According to the obtained result, it can be said that there is no autocorrelation between the error terms of the model

Heteroscedasticity of error terms (residuals)

The results from the heteroscedasticity test on the research regression model revealed that, at the error level of 5% of the significance value, the F-statistic of Breusch-Pagan is greater than 0.05. Therefore, the H0 hypothesis, implying the variance heterogeneity of the error terms, was not rejected. Therefore, the errors do not have variance heterogeneity.

Normality of error distribution (residuals)

The value of skewness being close to zero and kurtosis being close to 3 indicate the normality of the error distribution (Figure 1).

CONCLUSION

The purpose of this study was to examine the effect of dividends on the expected return of shares of companies listed on the Tehran Stock Exchange. The results from estimating the research model indicated that, at a significant level of 10%, the dividend has a significant inverse relationship with the expected return on stocks. In line with the current research findings, Yahya Zadehfar and Abbasi (2016) showed a significant relationship between dividends and realized returns. Moreover, Lozumi and Madanloo Joybari (2017) revealed a negative and significant relationship between dividends and stock returns.

On the contrary, Vakilifard and Iftikharnejad (2009) reported that the divided profit does not significantly affect the expected return on stocks. Likewise, Dastgir et al. (2015) rejected the existence of a significant relationship between dispersion and distribution of dividends and current stock returns. Furthermore, Asghari and Khodamipour (2014) also did not find a significant relationship between dividends and expected returns of shareholders.

Given the inverse effect of dividends on expected returns established in this study, it is safe to argue that the company that distributes its future cash flow can ensure its shareholders that their money will waste. In simpler terms, the higher the dividend, the lower the expected return, and vice versa. The companies can employ this knowledge to formulate and plan profit-sharing policies. Overall, while it is perceived that there are three modes of fixed, variable, and fixed profit plus additional profit to divide the profit, the payment of fixed dividends can reduce the risk of investment and its consequences, as given the near-certainty of profit-sharing in this case, conservatives and those who are looking for a steady and consistent income source tend to invest in shares of companies that employ this method. The research results indicated that deciding on the payment of interest and its amount is subject of utmost significance in corporate finance. As a result, the quality of investments can be improved by closely examining the effect of dividends on expected returns. Therefore, investors and analysts are suggested to pay attention to corporate

dividend policies when investing, as dividend policies have been proven to affect investment greatly.

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Tables

Table 1. Descriptive statistics of research variables

Research variable		Mean	*Median*	SD	Skewness	Kurtosis
Expected return	RM	21.67846	11.89	47.96667	0.229266	13.39978
Dividend	DIV	7.60E+11	5.42E+10	2.59E+12	6.681652	58.45114
Return on equity	ROE	23.31852	15.675	195.4528	15.30427	310.9148
Firm size	SIZE	13.57415	13.39	1.63845	0.52354	3.187322
Leverage	LEV	0.74896	0.72	0.441144	8.280527	122.4181
Cash flow from operating activities	CFO	740482.3	65706	2291112	4.776717	31.11028
Return on asset	ROA	267979.8	10.11017	5807109	21.83642	477.8861

Table 2. The results from Levin–Lin–Chu (LLC) test

Variable		LLC	Prob	Result	Degree
Expected return	RM	-9.63453	0.00	Stationary	I(0)
Dividend	DIV	-237.431	0.00	Stationary	I(0)
Return on equity	ROE	-28.3232	0.00	Stationary	I(0)
Firm size	SIZE	-12.5311	0.00	Stationary	I(0)
Leverage	LEV	-72.1553	0.00	Stationary	I(0)
Cash flow from operating activities	CFO	-165.366	0.00	Stationary	I(0)
Return on asset	ROA	-24.3532	0.00	Stationary	I(0)

Table 3. Results of Chow test on the research model

F-statistic	DoF	Prob	Result
1338.17	(95,377)	0.0000	H_0 rejected

Table 4. Results of Hausman test for research model

Chi-square statistics	DoF	Significance level	Result
1.730991	7	0.9732	H_0 accepted

Table 5. Results of model estimation using the random-effects model

| Variable		Coeff.	Std.	t-statistic	Sig. level
Constant value	c	27.01049	7.826828	3.451013	0.0006
Dividend	DIV	-1.13E-13	6.98E-14	-1.620556	0.0581
Return on equity	ROE	0.000116	0.000757	-0.152554	0.0475
Firms size	SIZE	0.569067	0.422688	-1.346306	0.0178
Leverage	LEV	0.011315	0.414695	-0.027286	0.9782
Cash flow from operating activities	CFO	1.40E-09	7.76E-08	-0.018021	0.0498
Return on assets	ROA	9.86E-09	2.56E-08	0.385499	0.0470
Determination coefficient R^2		0.69655	Durbin-Watson statistic		1.8131
F-Statistics		22.06072	Sig. level		0.0046

Table 6. Durbin–Watson statistic

Durbin–Watson statistic	Critical value at 5 percent	Critical value at 10 percent	Result
1.700338	0.386	0.323	H_0 rejected

Table 7. Breusch-Pagan test for heteroskedasticity of the regression model

Test	Statistic	DoF	Sig. Level	Result
Breusch-Pagan LM	4.464904		0.1024	H_0 accepted
Pesaran scaled LM	5.125768	4560	0.0725	H_0 accepted
Pesaran CD	5.039021		0.0977	H_0 accepted

Figures
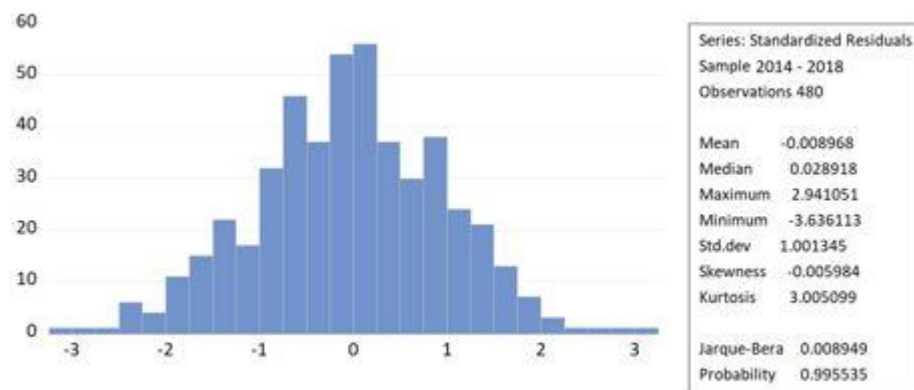
Figure 1.

Figure Captions

Figure 1. Normality of residu